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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,481	10/14/2005	Antoine Dokou Akemakou	17170/006001	8304
22511	7590	12/12/2008	EXAMINER	
OSHA LIANG L.L.P. TWO HOUSTON CENTER 909 FANNIN, SUITE 3500 HOUSTON, TX 77010			DESAL, NAISHADH N	
			ART UNIT	PAPER NUMBER
			2834	
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			12/12/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

**Application No.**

10/524,481

**Applicant(s)**

AKEMAKOU, ANTOINE DOKOU

**Examiner**

NAISHADH N. DESAI

**Art Unit**

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-17, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al in view of Török et al (US 6512318).

1. As per independent claim 1:

A rotating electrical machine that has a rotor with a body made of magnetic materials (abstract), a stator surrounding the rotor (Col 1 l 67); the stator has at least one armature coil (Fig 2), and the rotor has closed notches in the body and devices to selectively establish closed magnetic circuits passing around the armature coil of the stator (Figs 1 and 2); these devices include:  
permanent excitation magnets (Fig 1,24) able to generate magnetic fluxes;

excitation coils (Fig 1,36,38) housed in the notches of the rotor to define coiled poles; said coils are able to be excited and generate magnetic flux components to counter the fluxes generated by at least some of the magnets to create defluxing (Col 4 ll 26-50);

wherein the number Na of magnets (Fig 1,26) and the number Nb of excitation coils (Fig 1,36) and the arrangement of the coils and magnets in relation to each other form an elementary pattern me [Fig 1]; that is repeated a number Nme of times (Fig 1) and wherein the elementary pattern (me) comprises at least one reluctance pole.

Evans teaches device as claimed above, except for literally mentioning that the poles are reluctance pole. Török et al (abstract and Col 1 ll 14-27) teaches a device using reluctance poles. It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Evans with the teachings of Török et al to make a motor having reluctance poles. The motivation to do so would be that it would allow for a more uniform torque development and reducing the electrical conduction losses in the winding (Col 1 ll25-27 of Török et al).

2. As per dependent claim 2:

The rotating electrical machine according to claim 1, wherein Na is equal to or greater than 1, Nb is equal to or greater than 1, Nme is equal to or greater than 1, and the pair Na, Nb is different than 1.1 (Fig 1).

3. As per dependent claim 3:

Rotating electrical machine according to claim 1, wherein the magnets Na of the same elementary pattern are arranged to generate a radial magnetic flux (Fig 2).

4. As per dependent claim 4:

Rotating electrical machine according to claim 3, wherein the magnets in the same elementary pattern have the same polarity (Fig 1,24 and 28).

5. As per dependent claim 5:

Rotating electrical machine according to claim 1, wherein the coil poles in the same elementary pattern have the same polarity (Fig 2).

6. As per dependent claim 6:

Rotating electrical machine according to claim 1, wherein the elementary pattern, comprises at least two consecutive magnets separated by at least one reluctance pole.

7. As per dependent claim 7:

Rotating electrical machine according to claim 1, wherein the elementary pattern comprises at least two consecutive coil poles separated by at least one reluctance pole (Fig 1).

8. As per dependent claim 8:

Rotating electrical machine according to claim 1, wherein the elementary pattern comprises at least one coil pole and a consecutive magnet separated by at least one reluctance pole (Fig 1).

9. As per dependent claim 9:

Rotating electrical machine according to claim 1, wherein the winding strands of a coil belonging to an elementary pattern are held in two adjacent notches placed between two consecutive magnets (Figs 1 and 3).

10. As per dependent claim 10:

Rotating electrical machine according to claim 1, wherein several elementary patterns are associated with each other (Fig 1).

11. As per dependent claim 11:

Rotating electrical machine according to claim 10, wherein each of the elementary patterns are different (Fig 1).

12. As per dependent claim 12:

Rotating electrical machine according to claim 10, wherein there is, between at least two consecutive elementary patterns, a succession of at least one pair of North-South or South-North poles created by at least one magnet (Fig 1 and Col 4 II 5-50 and Tables 1 and 2).

13. As per dependent claim 13:

Rotating electrical machine according to claim 12, wherein the at least one magnet inserted between the at least two consecutive elementary patterns has a different polarity from at least one magnet belonging to at least one elementary pattern (Cols 2 and 3 ll 66-67, 1-2 and Table 1).

14. As per dependent claim 14:

Rotating electrical machine according to claim 1, wherein the Nb coils are not all excited simultaneously (Col 5 ll 14-16).

15. As per dependent claim 15:

Rotating electrical machine according to claim 1, wherein the intensity of modulation ( $I_{mod}$ ) is in an interval between  $-I_b$  and  $+I_b$ , where  $I_b$  is the maximum intensity of the magnetic flux supplied by the Nb coils.

16. As per dependent claim 16:

Rotating electrical machine according to claim 1, wherein there is a residual magnetic flux ( $F_r$ ) coming from the magnets which is not subject to the influence of the defluxing magnetic flux ( $F_d$ ) produced by the excitation coils (Col 4 ll 35-40).

17. As per dependent claim 17:

Rotating electrical machine according to claim 1, wherein the electrical machine consists of an automobile alternator (abstract).

18. Regarding claims 19-21, Evans et al and Török et al (US 6512318) appear to disclose the claimed invention except for literally mentioning that “consecutive magnets are separated by at least one reluctance pole”, or “at least two consecutive coil poles separated by at least one reluctance pole” or “at least one coil pole and a consecutive magnet separated by at least one reluctance pole”

Evans et al and Török et al discloses the claimed invention except for “consecutive magnets are separated by at least one reluctance pole”, or “at least two consecutive coil poles separated by at least one reluctance pole” or “at least one coil pole and a consecutive magnet separated by at least one reluctance pole”

It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the “consecutive magnets to be separated by at least one reluctance pole”, or “at least two consecutive coil poles to be separated by at least one reluctance pole” or “at least one coil pole and a consecutive magnet to be separated by at least one reluctance pole”, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al in view of Török et al (US 6512318) and further in view of Akemakou (US 6847143)

19. As per dependent claim 18:

Rotating electrical machine according to claim 1, wherein the electrical machine consists of an automobile alternator-starter.



Evans et al and Török et al (US 6512318) disclose the claimed invention and that it can be used as an alternator in a hybrid vehicle (Col 1 ll 26-30). Akemakou teaches a hybrid machine. Akemakou clearly discloses that the rotary electrical machine can be used as an alternator/starter (abstract of Akemakou).

It would have been obvious to a person having ordinary skills in the art at the time the invention was made to combine the teachings of Evans et al and Török et al (US 6512318) with Akemakou to make a machine that can also be used as an alternator-starter. The motivation to do so would be that it would allow for the alternator to function as a starter to drive the motor in a hybrid vehicle.

#### ***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NND

/Dang D Le/

Primary Examiner, Art Unit 2834